

REMARKS

Claims 3, 5-16, 18, and 21-22 are pending in the application. Claims 5, 6, 8-11, 15, 18, 21, and 22 are rejected. Claim 7 is objected to. Claims 3, 12-14, and 16 are allowed. Claims 5, 6, 9, and 15 are amended herein, and claim 7 has been canceled. In view of the amendments and the following remarks, reconsideration of the application is respectfully requested.

Response to 35 U.S.C. § 102 Claim Rejections

Claims 5 and 15 were rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,810,031 ("Hegde"). Applicant respectfully traverses this rejection, and submits that Hegde fails to teach each element of either claim, and therefore does not anticipate claims 5 and 15.

As a first matter, the Office Action states claims 7 and 12 have allowable subject matter, in part, because Hegde does not disclose preventing additional connection requests when the bandwidth is used up (Office Action at 2, numbered paragraph 1.) Claim 15 contains a similar claim limitation: "preventing the input ports from sending requests for the output¹ ports when the bandwidth allocated to the input ports has been exhausted." Claim 5, as now amended, also contains a similar limitation: "the input port prevented from requesting a connection to the output port when the current allocated bandwidth is used up." At least for this reason, claims 5 and 15 should also be allowed.

Furthermore, the rejection states that Hegde teaches a data rate controller comprising "a bandwidth tracker to identify an allocated bandwidth and to prevent the input port from connecting to the output port when the bandwidth is used up (col. 7, line 66 through col. 8, line 5; col. 6, ll. 15-20.)" (Office Action at 3, numbered paragraph 3.) This Hegde reference fails to disclose a bandwidth tracker that prevents an input port from requesting a connection to an output port when bandwidth is used up (claim 5), and a method that prevents input ports from sending requests for the input ports when the bandwidth allocated to the input ports has been exhausted (claim 15), as claimed.

The credit disclosed in Hegde refers to an amount of bandwidth in addition to the original allotted amount of bandwidth allocated to the input ports, calculated by the difference between the requested and allocated bandwidth for past allocation cycles. (col. 15, ll. 1-16; col. 6, ll. 14-19; col. 9, ll. 4-26). Hegde, unlike the current Application, discloses always having an allotted amount of bandwidth allocated to the input ports for each cycle, no matter how much bandwidth an input port has been allowed in past cycles. Hegde does not disclose preventing connections

¹ Note that claim 15 has been amended to correct a typographical error that referred to input ports when it should have referred to output ports.

and requests as a result of the allotted bandwidth being used up. At most, Hegde's credit will limit the amount of bandwidth available for data to be transferred over the connection in addition to the original amount of bandwidth allotted to the input ports for each cycle. Accordingly, Hegde's credit cannot function as the claimed controller and method, at least because it will never prevent the input port from connecting to the output port (claim 5) or requesting bandwidth (claim 15) based on the allotted bandwidth having been used up. Hegde, and in particular the sections of Hegde included in the rejection for support, fail to show this limitation.

Based at least on the differences identified above, Applicant respectfully submits that Hegde cannot anticipate claims 5 and 15.

Response to 35 U.S.C. § 103 Claim Rejections

Claims 6, 8-11, 18, and 21-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hegde in view of U.S. Patent No. 6,449,283 ("Chao"). Applicant respectfully traverses this rejection, and submits that the combination of Hegde and Chao fails to present a *prima facie* case of obviousness for any rejected claim.

Claim 6 has been amended to provide proper antecedent basis for the arbitration circuit recited in claim 7, and to add subject matter previously appearing in claim 7. Accordingly, claims 6 and 8-11 are now allowable based on the previous indication that claim 7 is allowable.

As a first matter, Chao teaches nothing that overcomes the deficiencies pointed out above in Hegde. Additionally, the Office Action states claims 7 and 12 have allowable subject matter, in part, because Hegde does not disclose preventing additional requests when the bandwidth is used up (Office Action at 2, numbered paragraph 1.) Claim 18 and its dependent claims 21-22 contain a similar claim limitation: "wherein the data rate controllers prevent input ports that have exceeded a data rate limit from sending connection requests to the scheduler." At least for this reason, claims 18 and 21-22 should also be allowed.

Furthermore regarding claims 6 and 18, Applicant respectfully disagrees with the assertion that Chao discloses multiple rate controllers assigned to each input-output port combination that control the rate at which data is received by the output ports. According to the Office Action, the round-robin arbiters in Chao limit bandwidth of the input-output connections by allowing only one connection to transmit during a cell time, because they must share and contend for bandwidth of the system. (Office Action at 2, paragraph 2). The identified section and figure of Chao show multiple arbiters, not multiple rate controllers. Chao's allowing only one connection to transmit during a cell time does not disclose identifying "an amount of

bandwidth currently allocated to the input port for transmitting data" and preventing the input port from "connecting to the output port when the current allocated bandwidth is used up" (claim 6) or preventing "input ports that have exceeded a data rate limit from sending connection requests to the scheduler (claim 18)." The round-robin arbiters in Chao are used to resolve contention, not to limit data rate. Chao does not take the amount of bandwidth previously used by the input-output connections into consideration in its bandwidth allocation scheme. For instance, one of Chao's input ports can continually request a particular output port and the request will be granted absent contention—no matter how much bandwidth the input port is consuming. Chao does not teach or suggest that each input port-output port combination should have a data rate controller with the limitations of claim 6, or that data rate controllers should prevent input ports that have exceeded a data rate limit from sending connection requests to the scheduler of claim 18. Based at least on the differences identified above, Applicant respectfully submits that claims 6 and 18 should be allowed.

Accordingly, Applicant respectfully submits that the combination of Chao and Hegde fails to teach or suggest the invention as claimed, or even all elements of the invention, and thus a *prima facie* case of obviousness is lacking.

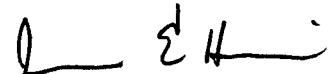
Response to Claim Objections

Claim 7 was objected to as being dependent upon a rejected base claim, but was found otherwise allowable. Claim 7 has now essentially been integrated into claim 6.

Conclusion

Applicant respectfully requests that the application be allowed in present form.

Respectfully submitted,

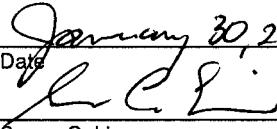


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